

US DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

APPLICANT: *Glebov* EFIMOV, ET AL.
FOR: HIGH EFFICIENCY BRAGG GRATINGS IN PHOTO-THERMO-REFRACTIVE GLASS

LIST OF ART CITED BY APPLICANT

Page 1 of 2

U.S. PATENT DOCUMENTS

EXAMINER	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
<i>W an</i>	AA 3,640,604	02/08/72	YARNELL	350	162 SF	
<i>W W</i>	AB 3,675,990	07/11/72	KOGELNIK, ET AL.	350	311	
<i>W W</i>	AC 4,057,408	1/08/77	PIERSON, ET AL.	065	018	
<i>W W</i>	AD 4,514,053	04/30/85	BORRELLI, ET AL.	350	162.2	
<i>W W</i>	AE 4,567,104	01/28/86	WU	428	410	
<i>W W</i>	AF 4,670,366	01/02/87	WU	430	13	
<i>W W</i>	AG 4,894,303	01/16/90	WU	430	13	
<i>W W</i>	AH 4,946,253	08/01/90	KOSTUCK	350	169	
<i>W W</i>	AI 4,965,152	10/23/90	KEYS, ET AL.	430	01	
<i>W W</i>	AJ 5,078,771	01/01/92	WU	65	30.11	
<i>W W</i>	AK 5,196,282	03/28/93	KNOBBE	430	02	
<i>W W</i>	AL 5,285,517	02/08/94	WU	385	142	
<i>W W</i>	AM 5,486,934	01/28/96	HUANG	359	15	
<i>W W</i>	AN 5,684,611	11/04/97	RAKULJIC, ET AL.	359	7	

FOREIGN PATENT DOCUMENTS

NONE

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

- W W* OA1 *Optical Holography Principles, techniques and applications*, second edition, P. Hariharan, Cambridge University Press. *pp 95-97 (1996)*
- W W* OA2 *Full-Color Photosensitive Glass*, S. Donald Stookey, George H. Beall and Joseph E. Pierson, Journal of Applied Physics, Vol. 49, No. 10, October 1978, pp. 5114 - 5123.
- W W* OA3 *Photolytic Technique for Producing Microlenses in Photosensitive Glass*, Borelli, Morse, Bellman and Morgan, Applied Optics, Vol. 24, No. 16, August 15, 1985, pp. 2520 - 2525.
- W W* OA4 *Photothermal Refractive Effect in Silicate Glasses*, Borgman, Glebov, Nikonorov, Petrovskii, Savvin and Tsvetkov, Sov. Phys. Dokl, Vol. 34, No. 11, November 1989, pp. 1011 - 1013

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Page 2 of 2

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

- ✓* OA5 Polychromic glasses - A New Material for Recording Volume Phase Holograms, Glebov, Nikonorov, Panysheva, Petrovskii, Savvin, Tunimanova and Tsekhomskii, Sov. Phys. Dokl, Vol. 35, No. 10, October 1990, pp. 878 - 880.
- m m* OA6 New Ways to Use Photosensitive Glasses for Recording Volume Phase Holograms, Glebov, Nikonorov, Panysheva, Petrovskii, Savvin, Tunimanova, and Tsekhomskii, Opt. Spectrosc., Vol. 73, No. 2, August 1992, pp. 237 - 241.
- m m* OA7 Photo-Induced Processes in Photo-Thermo-Refractive Glasses, Glebov, Glebova, Richardson and Smirnov, XVII International Congress on Glass, San Francisco, CA, July 5 - 10, 1998.
- m m* OA8 High-Efficiency Bragg Gratings in Photothermorefractive Glass, Efimov, Glebov, Glebova, Richardson and Smirnov, Applied Optics, Vol. 38, No. 4, February 1999, pp. 619 - 627.
- m m* OA9 Photo-Thermo-Refractive Glasses for High-Efficiency Bragg Gratings in UV, Visible, and IR Regions, Efimov, Francois-Saint-Cyr, Glebov, Glebova, Richardson and Smirnov. (2003) p 195
Conference on Lasers & Electrooptics, 2000

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Notice of References Cited	Application/Control No. 097750,708 <i>10/665339</i>	Applicant(s)/Patent Under R examination EFIMOV ET AL. <i>Gleb</i>	
	Examiner Martin J Angebrannt	Art Unit 1758	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-4541694	09-1985	Sullivan et al.	350/371
	B	US-5098803	03-1992	Monroe et al.	430/1
	C	US-5339305	08-1994	Curtis et al.	369/412
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	03-081718	04-1991	Japan	Morinaka et al.	
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	IBM Tech. Disc. Bull., Vol 31(3) pp. 18-21 (08/1988)
	V	EFIMOV, et al. "Laser-Induced Damage of Photo-Thermo-Refractive Glasses for Optical-Holographic-Element Writing", Proc. SPIE Vol. 3578, pp. 564-575 (1999)
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

US DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEAPPLICANT: LEONID B. GLEBOV
FOR: SENSITIZATION OF PHOTO-THERMAL-REFRACTIVE GLASS TO VISIBLE RADIATION BY
TWO-STEP ILLUMINATIONLIST OF ART CITED BY APPLICANTU.S. PATENT DOCUMENTS

EXAMINER	DOCUMENT NO.	NAME	DATE	CLASS	SUBCLASS
AA	4,541,694	Sullivan, et al.	09/17/1985	350	371
AB	5,098,803	Monroe, et al.	03/24/1992	430	1
AC	5,339,305	Curtis, et al.	08/16/1994	369	112

PATENT APPLICATION PUBLICATIONS

NONE

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FA JP03-081718 Morinaka, et al. 04/08/1991

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- OA (1979) A.P. Gararin, L.B. Glebov, O.M. Efimov, O.S. Efimova. Formation of color centers in sodium calcium silicate glasses with the nonlinear absorption of powerful UV radiation. Sov. J. Glass Phys. Chem. 5, Pages 337-340.
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- ~~OC (1996) P. Hariharan. Optical Holography. Principles, techniques, and applications. Chapter 7: "Practical recording materials," 95-124. Cambridge University Press, Pages 95-97.~~
- OD (1997) A.V. Dotsenko, L.B. Glebov, V.A. Tsekhomsky, Physics and Chemistry of Photochromic Glasses. CRC Press, Boca Raton, NY., Pages 9-11
- OE (1999) Efimov, et al. "Laser-induced Damage of Photo-Thermo-Refractive Glasses for Optical-Holographic-Element Writing", SPIE Vol. 3578, pp. 564-575
- OF (1999) O.M. Efimov, L.B. Glebov, S. Grantham, M. Richardson. Photoionization of silicate glasses exposed to IR femtosecond pulses. Journal of Non-Crystalline Solids, 253. 58-67.
- OG (2002) O.M. Efimov, L.B. Glebov, H.P. Andre. Measurement of the induced refractive index in a photothermorefractive glass by a liquid-cell shearing interferometer. Appl. Optics, 41. 1864-1871

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